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09/410,249	09/30/1999	DEBEBE A. ALAMINEH	119-045-ALAM	6580

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EXAMINER

JAGANNATHAN, MELANIE

ART UNIT

PAPER NUMBER

2666

DATE MAILED: 06/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/410,249

Applicant(s)

ALAMINEH, DEBEBE A.

Examiner

Melanie Jagannathan

Art Unit

2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-12,14 and 15 is/are rejected.
- 7) ☒ Claim(s) 3,4,13 and 16-20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims **6-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Perlman et al. U.S. Patent Number 5,128,926 in view of Rochberger et al. US 6,147,971.

Regarding claim **6**, the claimed method of, at an originating node, generating a message which reports a change in status of a link and transmitting the message to the neighbors of the originating node is disclosed by Perlman by a link state packet, originated from a given node, indicating the states of links in the network being sent to a first node and then transmitted to a second node in the network. See column 3, lines 29-56. The claimed step in the method of, at each neighbor, storing the message if the neighbor does not know of the change is disclosed by the first node storing the information from the link state packets sent by a given node for use in routing packets. See column 3, lines 35-38 and lines 43-56.

Perlman discloses all of the limitations of the claims except for transmitting the message to neighbors of the neighbor. Rochberger discloses each node in the network issuing update information in topology state elements that are flooded to all of the other nodes. See column 3, lines 25-27 and column 8, lines 14-21. At the time the invention was made it would have been obvious to a person of ordinary skill in the art to modify system of Perlman with each node

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flooding messages to all nodes. One of ordinary skill in the art would be motivated to do so for efficient update of link status to all nodes in system.

Regarding claim 7, Perlman discloses all of the limitations except for the claimed step of the neighbors not transmitting acknowledgment of receipt of the message. Rochberger discloses each node in the network issuing update information in topology state elements that are flooded to all of the other nodes. The nodes do not send acknowledgment of the topology state elements flooded to them. See column 3, lines 25-27 and column 8, lines 14-21. At the time the invention was made it would have been obvious to a person of ordinary skill in the art to modify system of Perlman with each node flooding messages to all nodes and not receiving acknowledgment of receipt of messages. One of ordinary skill in the art would be motivated to do so for efficiency of transmission..

Regarding claim 8, the claimed message being assigned an age is anticipated by a link state packet being generated with a field containing a sequence number indicating the relative age of the packet. Regarding claims 8 and 9, the claimed neighbor of the node and the neighbors of the neighbor decrementing the age prior to transmission is anticipated by each node, upon generating a link state packet to transmit to other nodes for updating use, including a different sequence number indicating the relative age of the packet in that now it is a new packet so the age is decremented to account for that. See column 5, lines 63-68 and column 6, lines 1-6.

Regarding claim 10, the claimed neighbor discarding the message if the neighbor has previously received the message is anticipated by the router (Figure 4, element 13) once receiving a fragment searching through the stored fragments to see if it received and discarding if it already has it or if it has newer information. See column 6, lines 7-21.

2. Claims 5, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perlman et al. U.S. Patent Number 5,128,926 in view of Crawley et al. U.S. Patent Number 5,995,503.

Regarding claim 5, the claimed method of generating a message which reports a change in status of a link and transmitting the message to all the nodes in the network is anticipated by a link state packet, originated from a given node, indicates the states of links in the network being sent to a node and is subsequently transmitted to the other nodes in the network. See column 3, lines 29-56. The claimed replacing of propagating reports with new reports and propagating the new reports to all the nodes is anticipated by if a link connected to a given node changes from a first state to a second state and if not previously indicated a replacement packet is generated conveying the state change. See column 4, lines 3-19.

Perlman does not disclose repeating the steps of generating new reports and propagating them to all the nodes in the network. Crawley et al. discloses a method of repeating steps of generating link status changes and transmitting to nodes in the network. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to repeat the steps of generating and propagating new reports. A person of ordinary skill in the art would be motivated to do this as it allows for continuous update on any new failures in the network as they are detected.

Regarding claim 14, the claimed nodes of paragraph (c ) include nodes which originated the propagating reports is anticipated by a given node detecting link connected to it has changed from a first state to a second state and determines if a previous sent link state packet indicated the first state of the link thus the given node which would have originated the propagating report. If

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it is determined that a previous sent link state packet did indicate the first state of the link, a replacement packet is sent from the given node.

3. Claim 1, 2 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rochberger et al. US 6,147,971 in view of Watanabe US 5,003,533.

Regarding claim 1, the claimed step of at each node, repeatedly examining status of links connecting to the node and if a change is detected, flooding the network with news of the change in messages is disclosed by Rochberger et al. by the use of flooding of the nodes in order for the nodes to maintain identical topology databases. The flooding is an ongoing activity wherein each node issues topology state elements (PTSE) containing update information and the process is repeated as shown by Figure 5 where steps start at receiving PTSE from neighbor (element 60) and going back to starting point at step of checking age of PTSE. See column 4, lines 1-2 and lines 14-21.

Rochberger et al. discloses all the limitations of the claims except for messages which are self-propagating and self-terminating. The claimed self-propagating message is disclosed by Watanabe, which discloses a ring network with a token (Figure 1, element 10) circulated along the channel (element 1) at all times. The claimed self-terminating message is disclosed by node capturing token in order to transmit on the channel and then after transmission is completed node sending out the token back onto ring for use by other nodes.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the flooding method of Rochberger et al. with token ring network of Watanabe. A person of ordinary skill in the art would be motivated to do this as it allows for

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continuous update on any failures in the network by allowing the messages to propagate continuously for nodes to capture and update according to newest status changes.

Regarding claim 2, the claimed step of the neighbors not transmitting acknowledgment of receipt of the message is disclosed by Rochberger et al. which discloses each node in the network issuing update information in topology state elements that are flooded to all of the other nodes. The nodes do not send acknowledgment of the topology state elements flooded to them. See column 3, lines 25-27 and column 8, lines 14-21.

Rochberger et al. discloses all the limitations of the claims except for messages which are self-propagating. The claimed self-propagating message is disclosed by Watanabe, which discloses a ring network with a token (Figure 1, element 10) circulated along the channel (element 1) at all times.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the flooding method of Rochberger et al. with token ring network of Watanabe. A person of ordinary skill in the art would be motivated to do this as it allows for continuous update on any failures in the network by allowing the messages to propagate continuously for nodes to capture and update according to newest status changes.

Regarding claim 15, Rochberger et al. discloses all the limitations of the claims except for self-propagating messages lack stated destinations. The claimed self-propagating message is disclosed by Watanabe, which discloses a ring network with a token (Figure 1, element 10) circulated along the channel (element 1) at all times. The token does not have a stated destination and circulates around the channel. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the flooding method of Rochberger

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et al. with token ring network of Watanabe. A person of ordinary skill in the art would be motivated to do this as it allows for continuous update on any failures in the network by allowing the messages to propagate continuously for nodes to capture and update according to newest status changes.

4. Claims 11,12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perlman in view of Rochberger.

Regarding claim 11, the claimed method of generating a message which reports a change in status of a link and transmitting the message to neighbors in the originating node in the network and after all nodes have received the message, terminating propagation of messages is anticipated by Perlman where a link state packet, originated from a given node, indicates the states of links in the network being sent to a node and is subsequently transmitted to the other nodes in the network. See column 3, lines 29-56.

However, Perlman does not disclose a method without informing the originator of receipt of the message by nodes. Rochberger discloses each node in the network issuing update information in topology state elements that are flooded to all of the other nodes. The nodes do not send acknowledgment of the topology state elements flooded to them. See column 3, lines 25-27 and column 8, lines 14-21. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify Perlman to include steps to terminate the propagation of the message. A person of ordinary skill in the art would be motivated to do this as it allows for the detection and propagation of new status changes.

Regarding claim 12, the claimed replacing of propagating reports with new reports is anticipated by Perlman where if a link connected to a given node changes from a first state to a



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second state and if this state change is not previously indicated a replacement packet is generated conveying the state change. See column 4, lines 3-19.

***Allowable Subject Matter***

5. Claims 3-4, 13, 16-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

6. Applicant's arguments with respect to claims 1, 6-10 and 11 have been considered but are moot in view of the new ground(s) of rejection.

Regarding claim 5, Examiner has interpreted the term "propagating" as when a message is received, a copy is kept (if needed) and passed on as supported by Applicant's arguments on page 10. Examiner contends reference Perlman discloses a given node propagating link state packets to other nodes in the network and replacing some link state packets with replacement packet indicating new state change and propagating the replacement packet. See column 4, lines 3-19.

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***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie Jagannathan whose telephone number is 703-305-8078.

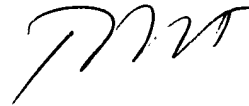
The examiner can normally be reached on Monday-Friday from 8:00 a.m.-4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 703-308-5463. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9315 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Melanie Jagannathan  
Patent Examiner  
AU 2666

MJ   
June 11, 2003



DANGTON  
PRIMARY EXAMINER